

## 1. Technical data

### Use for the intended purpose

#### ⚠ WARNING

Only use REMS Solar-Push for the intended purpose of filling, flushing and venting solar systems, geothermal systems and floor/wall heater systems and for filling tanks. Permissible media: heat transfer liquids, antifreeze, water, aqueous solutions, emulsions.

All other uses are not for the intended purpose and are prohibited.

#### 1.1. Scope of Supply

Electrical filling and flushing unit, 2 flexible fabric hoses, instruction manual

#### 1.2. Article numbers

REMS Solar-Push K 60	115302
REMS Solar-Push I 80	115301
PVC fabric hose ½" T60	115314
EPDM fabric hose ½" T100	115315
EPDM fabric hose ½" T165	115319
30 l plastic tank	115375
Pressure relief valve	115217
Fine filter with filter cartridge 90 µm	115323
Fine filter cartridge 90 µm	043054
Fine filter with fine filter bag 70 µm	115220
Fine filter bag 70 µm (10 bags)	115221
Adapter for canister lid	115379
Shut-off valve ¼"	115324
Changeover valve	115325
Changeover valve flow direction	115326
REMS CleanM, Machine cleaner	140119

#### 1.3. Applications

	Solar-Push I 80	Solar-Push K 60
Plastic tank volume	30 l	30 l
Transport height	≤ 63 m	≤ 54 m
Volume flow	≤ 1.6 m³/h	≤ 3 m³/h
Transport capacity at 40 m pumping head	18 l/min	16 l/min
Transport volume	≤ 27 l/min	≤ 36 l/min
Transport pressure	≤ 0.65 MPa/6.5 bar 94 psi	≤ 0.55 MPa/5.5 bar 80 psi
Temperature of the transported media (constant load)	≤ 80 °C	≤ 60 °C
pH value of the transported media	6.5–9.5	6.5–9.5

#### 1.4. Electrical data

	230 V~; 50 Hz; 1000 W	230 V~; 50 Hz; 940 W 110 V~; 50 Hz; 940 W
Protection class	I	I
Type of protection	IP 55	IP 44
Operating mode	S3 50% (AB 5/10 min)	Continuous operation

#### 1.5. Dimensions

L × W × H	550 × 480 × 970 mm (21.7" × 18.9" × 38.3")	550 × 480 × 970 mm (21.7" × 18.9" × 38.3")
-----------	---	---

#### 1.6. Weights

with PVC fabric hoses	20.4 kg (45 lb)	20.2 kg (44.5 lb)
with EPDM fabric hoses	20.0 kg (44.2 lb)	20.5 kg (45.2 lb)

#### 1.7. Noise information

Workplace-related emissions value	L <sub>PA</sub> = 73 dB (A) K = 3 dB (A)	L <sub>PA</sub> = 70 dB (A) K = 3 dB (A)
-----------------------------------	---	---

#### 1.8. Suction and pressure hoses

	PVC-fabric hose T60	EPDM-fabric hose T100	EPDM-fabric hose T165
Hose length	3 m	3 m	3 m
Hose size	½"	½"	½"
Hose connector, both sides	¾"	¾"	¾"
Temperature resistance	≤ 60 °C	≤ 100 °C	≤ 165 °C

#### 1.9. Fine filter with fine filter bag 90 µm (accessory Art. No. 115323)

Rated width	DN 70
Rated volume flow at pressure loss	5m³/h at 20 kPa/0,2 bar/2,9 psi
Rated pressure	300 kPa/3 bar/43,5 psi
Operating temperature	≤ 45 °C
Operating pressure	≤ 800 kPa/8 bar/116 psi

## 2. Start-up

#### NOTICE

REMS Solar-Push is not intended/suitable for permanent connection to the installation. Disconnect all hoses from the installation after completing the work. REMS Solar-Push may not be operated unattended.

## 2.1. Electrical connection

#### ⚠ WARNING

**Caution: Mains voltage present!** Before connecting the electrical filling and flushing unit, check whether the voltage given on the rating plate corresponds to the mains voltage. Only connect electrical devices of protection class I to a socket/extension lead with a functioning protective contact. On building sites, in a wet environment, indoors and outdoors or under similar installation conditions, only operate the electrical device on the mains with a fault current protection switch (RCD) which interrupts the power supply as soon as the leakage current to earth exceeds 30 mA for 200 ms.

## 2.2. Connecting the electrical filling and flushing unit to the solar system

Connect one of the two fabric hoses to the pressure line connection (1). Connect the 2nd fabric hose to the return line connection (2) of the plastic tank (3). Connect the respective free end of the pressure or return line to the ball valves of the solar system and open the ball valves. Close the connecting valve between the two ball valves of the solar system. Fill the plastic tank (3) with transported medium and open the ball valve (4). Plug the mains plug of the electrical filling and flushing unit into the socket with a protective earth.

#### ⚠ CAUTION

**Danger of injury due to escaping transported medium.** Tighten the hose screw connections and check for leaks regularly.

## 2.3. Screw cover with return line connection ¾" and fine filter bag 70 µm (accessory art. no. 115220, Fig. 3)

Remove the screw cover (6). Replace the inner plate of the screw cover (6) by an adapter (10). Screw the screw cover (6) with adapter to the plastic tank. Insert the fine filter into the opening in the adapter, screw the screw cover with ¾" return line connection to the adapter, screw the return line to the return line connection, close the return pipe (2) connection.

## 2.4. Fine filter unit with large dirt collection vessel (accessory art. no. 115323, Fig. 4)

Fasten the fine filter unit to the return line connection (2), connect the return line to the fine filter unit.

## 2.5. Changeover valve for alternative suction of the transport medium from another tank (accessory art. no. 115325, Fig. 5)

Unscrew the line from the plastic tank (3) to the pump at the ball valve (4) and screw on the changeover valve for alternative suction of the transport medium at the ball valve (4). Connect one outlet of the T-piece to the pump line, connect a line to another tank to the other outlet of the T-piece. Control the flow direction with the valve handle.

## 2.6. Flow direction changeover valve (accessory art. no. 115326, Fig. 6)

The flow direction changeover valve serves for clearing deposits/sludge in solar stations and underfloor heating. Screw the flow direction changeover valve with connection (P) to the pressure line connection (1). Connect connection (R) of the flow direction changeover valve and the return line connection (2) with the enclosed ½" T100 EPDM fabric hose. The two "solar station" connections on the flow direction changeover valve are connected to the outlets on the solar station with the two ½" fabric hoses belonging to the REMS Solar-Push. The pressure line and return line to and from the solar station are switched by turning the lever on the flow direction changeover valve with the pump running. Deposits/sludge are loosened by the generated pressure pulses.

## 3. Operation

#### NOTICE

REMS Solar-Push is not intended/suitable for permanent connection to the installation. Disconnect all hoses from the installation after completing the work. REMS Solar-Push may not be operated unattended.

Do not switch the Solar-Push K 60 pump on until it is filled completely with liquid. Do not allow the pump to run dry! Procedure for filling the Solar-Push K 60: The plastic tank (3) must be filled with liquid. The pressure line (1) and return line (2) must be connected. Open the ball valve (4). Open the bleed screw (9). Close the bleed screw (9) as soon as liquid emerges.

The pump of the Solar-Push I 80 also sucks dry.

Switch the pump on at the On / Off switch (5). Open and remove the screw cover (6) on the plastic tank (3) so that the air can escape from the system. Observe the liquid level in the plastic tank and, if necessary, refill with transported medium so that no air enters the solar circuit. Flush the solar circuit with the transported medium. At the inspection glass of the fine filter (7) or by looking into the large opening of the plastic tank (6), check whether there are still air bubbles in the transported medium. Continue the flushing process until there is no more air in the transported medium.

Do not close the pressure and return lines of both pumps for longer than 60 s because the pumps otherwise run hot and will be damaged.

Switch off the pump (5) after the end of the filling and flushing process. Close the ball valves on the solar system, open the connecting valve between the two ball valves of the solar system. Close the ball valve (4). On the REMS Solar-Push I 80, reduce the pressure in the pressure line by opening the pressure relief valve (8). On the REMS Solar-Push K60, reduce the pressure in the pressure line by slightly unscrewing the inspection glass on the fine filter (7). The pressure relief valve (8) is available as an accessory for the REMS Solar-Push K 60.